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THE AGRICULTURAL • SITUATION •

MARCH 1946

A Brief Summary of Economic Conditions

Issued Monthly by the Bureau of Agricultural Economics, United States Department of Agriculture
Subscription price, 50 cents per year; single copy .5 cents; foreign price, 70 cents; payable in cash or money
order to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

VOLUME 30 - NUMBER 3 - WASHINGTON, D. C.



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MILLIONS of people throughout the world face starvation, partly the aftermath of war and partly the result of serious droughts in many food-producing areas. The United States is one of the few important food-producing countries to have escaped a drought last season, and, with ample larders, the world looks to this country to help alleviate the critical food shortage—in many countries much worse than during the war. To meet the crisis, by making more food available for shipment abroad, the President and other national leaders have asked for: (1) further increased agricultural production, (2) prevention of food waste, especially wheat, and fats and oils, and (3) substitution of plentiful foods. * * * In Late February, the 1946 goals for wheat, corn, soybeans, grain sorghums, and dry peas were further increased about $3\frac{1}{4}$ million acres, bringing the goals for cultivated crops to nearly 300 million acres, 13 million acres more than planted in 1945. Rural and urban people alike are asked to continue the victory garden program in 1946, and exceed last year's total of about 18 million gardens. * * * Farmers, consumers, food processors, and food handlers are requested to conserve wheat—feeding wheat to livestock is restricted, wheat for alcohol is discontinued, and a slightly higher extraction rate for flour is required.

National Economic Conditions in 1945

STRONG domestic demand for agricultural products in 1945 exceeded available supplies. This was due chiefly to a continued high level of employment together with large non-agricultural income payments. Although the abrupt end of the war in August brought American business face to face with major problems of adjustment because of suddenly reduced Government purchases, both incomes and employment were better maintained than had been anticipated. During the last half of the year demands for food by the armed forces declined sharply and lend-lease shipments were terminated, but commercial exports continued large.

For the year 1945 as a whole, the gross national product and national income were about the same as in 1944. However, Government expenditures, as a contributor to gross national product, declined slightly more than consumer expenditures increased. The high level of consumer expenditures was made possible by small increases

in income payments and a decline in net savings of individuals. While overall money incomes were well maintained, the index of industrial production and income of industrial workers decreased by 14 percent and 16 percent respectively as compared with 1944. Increases in the level of both wholesale prices and consumer prices indicate that probably the general level of the physical volume of production was a little smaller in 1945 than in 1944.

The effect of the end of the war upon national economic conditions is somewhat obscured by comparing yearly figures. Industrial production, which had been declining slowly for some time, dropped nearly one-fourth between July and October. It rose slightly in November, but then declined again in December, mainly as a result of work stoppages in important automobile plants and holiday shut-downs in steel, textiles, paper, and mining. However, nonagricultural income payments decreased only

Economic Conditions in the United States—War and Prewar

	Unit	1935-39	1942	1943	1944	1945
Gross national product ¹	Bil. dollars	81.9	152.3	187.4	197.6	197.3
Government expenditures: ¹						
Total	do	13.7	62.7	93.5	97.1	83.0
War	do		50.3	81.3	83.7	69.0
Consumer expenditures ¹	do	58.8	82.0	91.3	98.5	104.9
National income ¹	do	65.4	122.2	149.4	160.7	161.0
Nonagricultural income payments ¹	do	61.1	104.5	127.7	141.1	144.1
Income of industrial workers ²	do	10.8	26.1	34.8	35.6	29.9
Cash farm receipts ²	do	8.0	15.3	19.3	19.8	20.5
Net savings of individuals ¹	do	5.5	28.6	33.3	38.9	34.9
Industrial production: ³						
Total	1935-39=100	100.0	199.0	239.0	235.0	203
Munitions	1943=100		56.0	100.0	110.0	26.0
Wholesale prices: ⁴						
All commodities	1926=100	80.6	98.8	103.1	104.0	105.8
All commodities except farm and food	1926=100	81.2	95.5	96.9	98.4	99.7
Farm products	1926=100	76.0	105.9	122.6	123.5	128.3
Food	1926=100	79.1	99.6	106.8	105.0	106.2
Cost of living: ⁴						
Total	1935-39=100	100.0	116.5	123.6	125.5	128.4
Food	1935-39=100	100.0	123.9	138.0	136.1	139.1
Nonfood	1935-39=100	100.0	112.6	115.7	120.0	122.8
Foreign trade: ¹						
Exports:						
Total	Bil. dollars	2.9	8.0	12.8	14.2	9.6
Lend-lease	do		4.9	10.3	11.3	5.3
General imports	do	2.4	2.7	3.4	3.9	4.1

¹ Department of Commerce.

² Bureau of Agricultural Economics.

³ Federal Reserve Board.

⁴ Bureau of Labor Statistics.

⁵ For month of September, 1945.

6 percent between July and September (after allowing for seasonal variation) and rose slightly in October and November. The strength shown by income payments in the latter part of the year was primarily the result of increases in total mustering-out payments by the military services and in unemployment compensation payments. Military and civilian pay rolls of the Federal Government and factory pay rolls decreased considerably, and more than offset increases in other sectors of the economy, particularly in the trade and service industries.

The increase in unemployment during the last 5 months of 1945 was comparatively small. According to the Bureau of the Census, the number of unemployed rose from 830,000 in August to 1,650,000 in September and

declined slightly in October. Unemployment rose in November and December, but totaled only 1,950,000 in the latter month. During this same period the total labor force declined by more than 5 million due in part to the withdrawal of women and underage and over-age workers. Persons employed numbered 53,520,000 in August and 51,360,000 in December. The comparatively small changes in the total of those employed and unemployed (civilian labor force) during the last half of 1945 and the large increase in the number of persons not in the labor force indicate that a considerable number of men released from the armed services did not immediately seek employment.

B. S. WHITE, JR.

Bureau of Agricultural Economics

Commodity Reviews

FOOD SUPPLIES

CIVILIAN per capita food consumption in the United States in 1946 is expected to be at least as large and may even exceed any previous year, assuming, of course, that crops this year are no worse than average. This is in sharp contrast with the situation outside the United States with per capita world supplies for 1945-46 averaging about 12 percent below prewar levels.

Total food supplies of the United States in 1946 for domestic consumption, military use, and export are not expected to differ greatly from 1945. Despite some increase in exports to meet the critical needs of liberated areas, civilian consumption in the United States probably will be larger than last year. The proportion of the total food supply going to the armed services has been sharply reduced.

But civilian food supplies in the

Civilian Consumption Per Capita of Major Foods, 1935-39 Average, 1945 and Preliminary Forecast for 1946

Food group	1935-39 average	1945	1946 forecast
	Pounds	Pounds	Pounds
Red meats.....	125.6	131.5	150
Chicken and turkey meat.....	20.5	29.0	28.6
Eggs ¹	298	390	365
Fluid milk and cream..	340	447	430
Butter.....	16.7	10.5	10.5
Lard.....	11	11.9	12.6
Margarine.....	2.3	3.4	2.7
Fresh fruits.....	138.5	146.5	148
Processed fruits.....	25.7	31.5	(2)
Fresh vegetables.....	235	270	247
Processed vegetables.....	36.7	53.8	(2)
White potatoes.....	130	130	(2)
Sweetpotatoes.....	23.3	19.2	(2)
Dry beans and peas...	9.3	7.9	(2)
Wheat flour.....	153.1	161.4	157
Corn products.....	38.5	40.7	36.5
Rice.....	5.7	5.4	5
Rye flour.....	2.2	2.6	2.3
Oatmeal.....	3.9	4.1	4.4
Sugar.....	96.5	73.2	(2)
Coffee.....	14	16.2	17
Tea.....	0.7	0.7	0.7
Cocoa.....	4.4	3.5	3.8

¹ Numbers, not pounds.

² Not available till April.

Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid, interest, and taxes	Parity ratio ¹
1910-14 average	100	100	100
1915-19 average	162	150	106
1920-24 average	151	173	86
1925-29 average	149	168	89
1930-34 average	90	135	66
1935-39 average	107	128	84
1940-44 average	154	148	103
1945 average	202	174	116
1945			
February	199	172	116
March	198	173	114
April	203	173	117
May	200	173	116
June	206	173	119
July	206	173	119
August	204	173	118
September	197	174	113
October	199	175	114
November	205	175	117
December	207	176	118
1946			
January	206	177	116
February	207	178	116

¹Ratio of prices received by farmers to prices paid, interest, and taxes.

aggregate will be hardly sufficient to satisfy total domestic demand. Supplies of some foods will be substantially less than many groups of consumers would be willing to purchase at current prices, reflecting in some instances the necessity of substantial exports to prevent starvation abroad. The new food conservation program may alter food consumption in the United States during the next few months, but the precise effects on the annual per capita rate of consumption could not be estimated in early March.

Most prominent among the foods that will be short throughout the year are sugar and butter. Civilian supplies of meat, canned fish, fats, and canned fruits are expected to be insufficient to satisfy consumer demand in full at present prices during a large part of the year. On the other hand, prospects are quite favorable for plentiful supplies of fresh and frozen fish, poultry products, dairy products

except butter, citrus fruit, canned fruit juices, fresh and processed vegetables, and potatoes. Despite the need for curtailing the use of wheat in the production of alcohol and beer and for increasing the wheat-flour extraction rate in order to meet export commitments, the consumption of wheat cereal products may continue higher than before the war although somewhat below 1945.

With the exception of lamb, mutton, veal, and perhaps fluid milk, fresh vegetables and cereal products, civilian per capita consumption of individual foods this year will be at least as large as for the year 1945. Among the foods for which consumption per person is expected to be higher than in 1945 are beef, pork, fish, evaporated milk, cheese, fluid cream, lard, processed fruits and vegetables, and potatoes. A little more sugar may be available than last year.

WHEAT

WITH very heavy export requirements, it is expected that the carryover July 1, 1946, will be reduced to the lowest level since 1937. The 80 percent extraction rate, by lowering byproduct production of millfeeds and still maintaining high levels of flour production, will release about 20 million bushels for export. Any savings resulting from the campaign to reduce domestic wheat consumption will further increase the quantity for export. Wheat for alcohol has been discontinued for the rest of the present crop year.

The quantity of wheat available for export is of course dependent on free movement of farm stocks to market, as well as a sharp reduction in using wheat for feed which accounted for 175 million bushels in the last six months of 1945. The recent advance in price ceilings for wheat will encourage farmers to sell more freely and also effect some reduction in wheat feeding.

Of the 1,406 million bushels available for the 45-46 year, if 84 million

are used for seed, less than 520 million for food, 20 million for alcohol, 240 million or less for feed, and 400 million for export, the July 1 carryover will approximate 150 million. This compares with the 1932-41 average of 235 million, and the quarter-century low of 83 million in 1937. As of Jan. 1, stocks were 689 million bushels, of which farmers held 369 million.

The prospective world supply of wheat including flour for export, located in the four principal exporting countries, amount to about 900 million bushels. This is about 18 percent less than the total of world import requirements, placed at over 1,100 million bushels, but about double the average net exports from these countries in the 5 prewar years and an all-time record.

Of the total probable exports, it is expected that the distribution will be about as follows, in million bushels: United States 400, Canada 370, Argentina 90, and Australia 40. Sup-

plies from the Southern Hemisphere countries are below average because of smaller-than-average harvests this season (December 1945) and reduction or virtual elimination of carryover stocks following the previous year's severe drought. The new crop in Australia at 130 million bushels, however, is sharply above the 52 million bushels in 1944, but the production in Argentina, estimated at 150 million bushels, is the same as in 1944. Exports from Argentina have been adversely affected by the lack of adequate supplies of fuel and tires, necessary to transport wheat to shipping ports.

FEED

STOCKS of corn, oats, and barley on farms and at terminal markets on January 1, 1946, totaled 74.5 million tons, 2 percent less than on January 1, 1945. Corn stocks were the smallest for that date in 7 years, barley stocks were smaller than any year since 1938, but oat

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Feb. 15 1945	Jan. 15 1946	Feb. 15 1946	Parity price Feb. 15, 1946
	August 1909- July 1914	January 1935- Decem- ber 1939				
Wheat (bushel).....dollars..	0.884	0.837	1.47	1.54	1.55	1.57
Rice (bushel).....do.....	0.813	0.742	¹ 1.81	1.80	1.77	1.45
Corn (bushel).....do.....	0.642	0.691	1.06	1.10	1.11	1.14
Oats (bushel).....do.....	0.399	0.340	.733	.717	.731	.710
Hay (ton).....do.....	11.87	8.87	17.70	15.70	15.80	21.10
Cotton (pound).....cents.....	12.4	10.34	19.99	22.36	23.01	22.07
Soybeans (bushel).....dollars..	¹ 0.96	0.954	2.10	2.09	2.11	¹ 1.71
Peanuts (pound).....cents.....	4.8	3.55	8.14	8.37	8.43	8.54
Potatoes (bushel).....dollars..	0.697	0.717	1.64	1.45	1.46	1.30
Apples (bushel).....do.....	0.96	0.90	2.58	3.53	3.75	1.71
Oranges on tree, per box.....do.....	¹ 1.81	1.11	2.25	2.12	2.12	² 2.10
Hogs (hundredweight).....do.....	7.27	8.38	14.00	14.10	14.20	12.90
Beef cattle (hundredweight).....do.....	5.42	6.56	¹ 11.60	11.80	12.60	9.65
Veal calves (hundredweight).....do.....	6.75	7.80	¹ 13.20	13.60	13.90	12.00
Lambs (hundredweight).....do.....	5.88	7.79	¹ 13.50	13.00	13.30	10.50
Butterfat (pound) ³cents.....	26.3	29.1	50.8	50.7	50.8	⁴ 48.0
Milk, wholesale (100-pound) ⁵dollars..	1.60	1.81	¹ 3.29	¹ 3.37	3.33	⁶ 2.93
Chickens (pound).....cents.....	11.4	14.9	24.5	23.5	23.1	20.3
Eggs (dozen).....do.....	21.5	21.7	35.8	41.1	32.6	³ 35.6
Wool (pound).....do.....	18.3	23.8	¹ 40.2	40.1	40.6	32.6

¹ Revised.

² Comparable base price, August 1909-July 1914.

³ Comparable price computed under section 3 (b) Price Control Act.

⁴ Comparable base price, August 1919-July 1929.

⁵ Does not include dairy production payments made directly to farmers by county AAA offices.

⁶ Adjusted for seasonality.

stocks were larger than on any other January 1 for which records are available. With the number of livestock on farms only slightly larger than a year earlier, January feed grain stocks per animal unit were only slightly smaller.

The very strong demand for feed grains and byproduct feeds that has persisted during the past few months continued unabated during February. Market supplies have been fairly large, but, with high returns from livestock, demand has far exceeded the available supplies. Prices have remained at ceiling levels. Competition for market supplies of all kinds of feed concentrates probably will continue intense through spring. Supplies of corn, particularly for processing, will be insufficient to meet all needs at least until new crop grain becomes available.

Emergency measures to be taken under the President's directive of early February to help meet world food needs may result in some easing in the demand for feed. But such a reduced demand probably will not be felt much before late spring. The most immediate effects will be less grain utilized in producing alcoholic beverages. Wheat feeding has been restricted. With a higher extraction rate in milling, the output of wheat millfeeds will be reduced. If hogs are marketed at lighter weights and cattle are marketed before attaining a high degree of finish the rate of feeding per unit of livestock output will be reduced slightly.

Demand for feed grain for processing probably will be very strong during the remainder of the current season. Requirements of livestock, however, probably will be somewhat lower by the second half of 1946, with fewer chickens and turkeys being raised than in 1945, and with some decrease in numbers of milk cows and other cattle on farms. There will be more hogs on farms than a year earlier but they probably will be marketed at lighter weights.

DAIRY PRODUCTS

UNIT returns to dairy farmers during 1946 are to be maintained at the 1945 level, according to a recent announcement by the Stabilization Administrator. Such returns will be maintained by subsidy payments, or increases in price ceilings if subsidies are eliminated. This action was taken to encourage milk production. During 1945, subsidies accounted for somewhat more than one-seventh of the total cash income from dairy products.

Milk production in 1946 is expected to be about 3 percent smaller than the record 122.2 billion pounds produced in 1945. The number of milk cows on farms January 1, 1946, at 26.8 million head, was 3 percent below January 1, 1945. But production per cow may not show much change.

Over-all demand for dairy products at present prices will exceed supplies. Supplies of fluid milk and manufactured whole milk products (cheese, evaporated and condensed milk, and dried whole milk) may be sufficient during the year to meet most demands, but the demand-supply gap for butter will be wide all year. Production of ice cream, limited by sugar supplies, will not be sufficient to meet demand in full.

POULTRY AND EGGS

DOMESTIC demand for eggs in 1946 is expected to be moderately less than in 1945, chiefly because supplies of meats are larger than last year. Exports also will be less. Prices received by farmers for eggs during the flush production season will be less than in the comparable season of 1945 and may be at or near support levels.

For price-support purposes only, the Department of Agriculture has announced that, until further notice, it will pay 99 cents to \$1.00 per pound for dried whole eggs, f. o. b. delivery point, and 26¼ cents per pound for

frozen whole eggs. These prices are expected to reflect at least 90 percent of parity as required by law.

The number of hens and pullets on farms January 1, 1946 was 469 million, about the same as on the previous January 1. Hence, farm egg output during the first half of 1946 will be about the same as in corresponding period of 1945. However, farmer's intentions as of February 1 to purchase 14 percent less baby chicks this Spring than Spring 1945 will adversely affect egg production in the latter half of 1945.

Commercial broiler and turkey production because of decreased army procurement and tight feed supplies, will be less in 1946 than in 1945. As of January 1, farmers indicated a 5 percent decrease in purchase of turkey poults.

Chickens on farms January 1, 1946 totaled 525 million head, exceeded only by the January 1, 1944 record of 576 million, and slightly greater than on January 1, 1945. The 8.7 million head of turkeys on farms January 1, 1946 exceeded any previous year.

FRUIT

THE strawberry acreage for harvest in 1946, judging from early indications, may be about one-fifth larger than in 1945, but still well below prewar acreages. With average weather, production probably would be much above the very low wartime level of about 5 million crates in 1944 and 1945. Considerable further recovery in production would be required, however, before the prewar level of about 10 million crates would be reached.

Although it is too early in the year to forecast with accuracy the supplies of other 1946 crop deciduous fruits, it is now expected that if average growing conditions prevail, supplies of apples from commercial areas may be about twice as large as from the short 1945 crop.

Plentiful supplies of fresh citrus

fruits will continue to be available this spring. Supplies of oranges and grapefruit from Florida, especially, will be larger than last spring. A record large canned pack of grapefruit juice is in prospect from the 1945-46 crop. In addition, large canned packs of orange juice and blended orange and grapefruit juice are now being processed. Practically all of this new pack will be available to civilians, in contrast to the case with the preceding pack of which about two-fifths was taken by the military, lend-lease, and commercial exports. Civilians once more are receiving canned grapefruit segments from a larger 1945-46 pack. Nearly all of the small wartime packs of such fruit were taken by the military. Although civilian supplies of all canned fruits this season are much larger than last season and near prewar levels, they still are short of demand at ceiling prices.

Demand for fresh fruit continues strong this season, with prices generally at the high wartime levels of the past few seasons. Prices for apples, pears, and strawberries have been at ceilings this past winter. Prices for the better grades and preferred sizes of oranges generally have been at ceiling levels, but prices for grapefruit and lemons generally have been somewhat below ceilings. This price behavior of citrus has followed the usual seasonal pattern.

VEGETABLES

SUPPLIES of commercial truck crops for fresh market this spring probably will be about as large as last spring, granted good growing weather. Preliminary reports on spring acreages, show a probable increase of about 8 percent over 1945 and 17 percent above average (1935-44). Particularly large percentage increases are indicated for late spring onions and for covered (hot-capped) acreages of cantaloupe and honeyball and honeydew melons. Spring production of shallots on the other hand, is estimated

to be not quite three-fourths as large as last year.

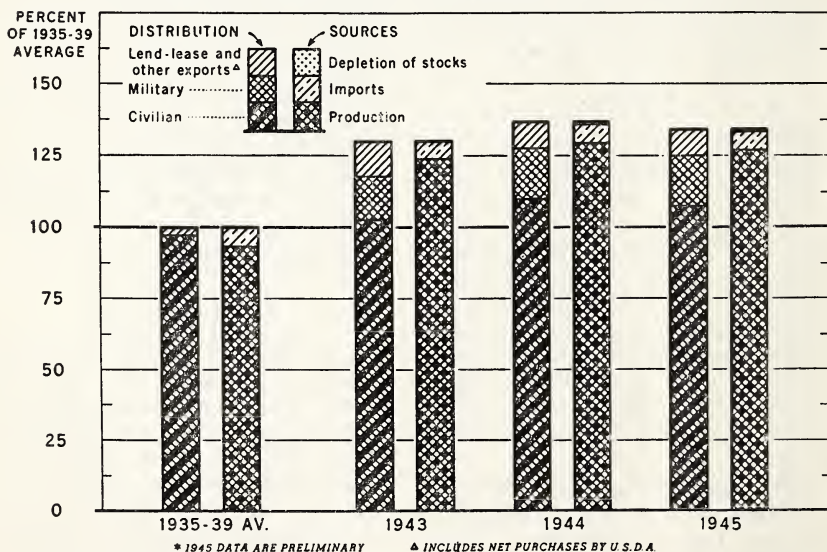
Demand for vegetables for processing this year is not expected to be as strong as last because of the major reduction in military requirements. Grower prices for vegetables for processing and processed vegetables will not be supported in 1946. It is expected, however, that considerably more than prewar quantities of vegetables will be processed and consumed in 1946.

Supplies of potatoes in terminal markets this spring should be generally adequate, although refrigerator car shortages may cause temporary maldistribution. The very active demand for potatoes for export may not be completely satisfied because of handi-

caps in loading and moving the potatoes to ports and loading on ships. Movement of seed potatoes, expected to reach a seasonal peak in March, will complicate the car problem for table stock potatoes. It is now a question whether the old crop potatoes can be moved to market and to export fast enough to get them largely out of the way by the time new crop potatoes become available in considerable volume. Plantings and intentions to plant indicated in early February that the total acreage in commercial early potatoes this year probably will be the same as last year.

The remaining stocks of sweetpotatoes are expected to be inadequate to meet demands at ceiling prices for the balance of the marketing season for the 1945 crop.

TOTAL UNITED STATES FOOD DISAPPEARANCE: DISTRIBUTION AND SOURCES, 1935-39 AVERAGE, 1943, 1944, AND 1945*



Feed and Livestock During Four Decades

Feed grain production during the war just ended exceeds any previous record, largely because of technological developments and unusually favorable weather, though the acreage was smaller than during World War I and the following two decades except for the 1935-39 period. The combined production of all livestock and products increased even more than the output of feed grains and hay did during World War II. The wartime increase in feed production of 30 percent for grains and 18 percent for hay—made possible the expansion in meat, dairy and poultry products by a third more than the 1935-39 average.

During World War II (1941-45) feed grain production averaged 15 million tons a year more than during World War I (1915-19), being larger in all regions of the country except the East. Of the four feed grains produced throughout the country, the proportion of corn was about 73 percent for each war period, oats dropped from 21 percent to 17 percent in the second period, while barley increased from 4 to 7 percent, and sorghums from 2 to 3 percent.

To appraise the future productive capacity of the Nation's farm plant, it is necessary to understand how so large an increase in the production of feed crops and livestock came about. To what extent were these increases the temporary result of emergency efforts? To what extent were they the result of permanent influences which may be expected to continue?

Higher Yields Chief Development

A major part of the wartime increase in the production of feed crops is attributable to higher yields per acre in pounds or in nutritive value for each of the leading feed crops. Total cropland used for crops was increased

about 3 percent and in addition, a considerable acreage was shifted from small grains to corn or soybeans, each producing more feed per acre than oats. Nevertheless, additional feed thus produced was not so large as that resulting from increases in the yield per acre of these crops and hay.

Hybrid Corn Now Widespread

Foremost among the factors, including weather, which increased yields per acre, was greatly increased use of hybrid seed corn. It is calculated that corn production in the United States in 1944 was about 400 million bushels greater than it would have been had open-pollinated seed been used on all the acreage planted. Improvements have been made in oats and soybean seed comparable to those in hybrid corn, and use of the improved varieties is spreading rapidly.

Expanded use of fertilizer on corn and oats has improved yields, as have more mechanical power and labor-saving machinery. Undoubtedly both corn and soybean yields were higher in the Corn Belt in the last four years because farmers had sufficient power to complete planting and cultivating promptly after the late spring rains.

The noteworthy contribution of the hay to larger feed supplies came about by the gradual shifting from grass hay to legume hay with its greater proportion of digestible proteins. This, together with the big increase in the production of oilseed cake and meal means that important progress has been made toward a better balancing of rations for livestock.

Aside from the important increases in the total production of feed crops, the most important factor in increasing the output of livestock products for market has been the shift from animal power to mechanical power since World War I. The decline in the total quantity of feed used for horses and mules on farms and in cities is equiva-

NOTE.—This summary is based largely on a more comprehensive report, *Feed Grains and Meat Animals in War and Peace*, prepared by Mr. Crickman and recently issued by BAE.—Editor.

lent to the production of about 50 million acres of cropland and many million acres of pasture. This large quantity of feed is now available for production for market. The hay and pasture released in 1944, as compared with 1918, was enough to feed the equivalent of about 16.5 million head of cattle and calves.

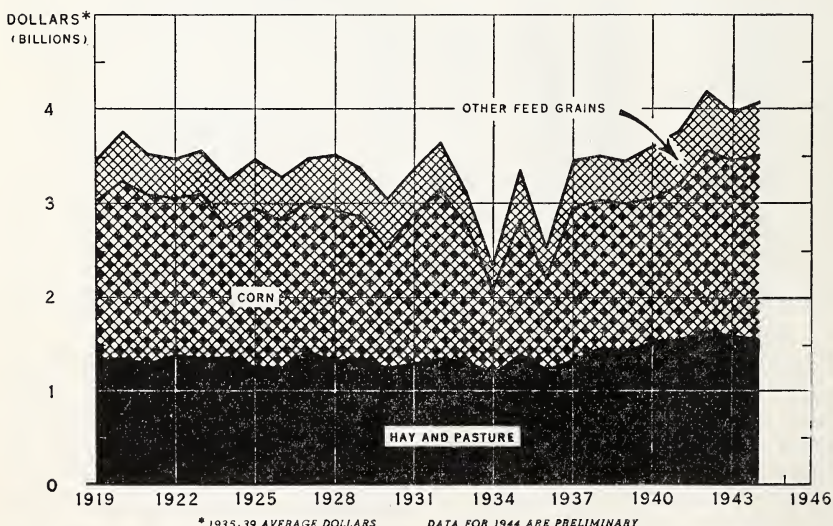
On the production side, increasing the supplies of feed for producing meat, dairy, and poultry products is progressive. It will persist when done by shifting from horse to mechanical power, by the use of hybrid corn and other new higher-yielding varieties of seed, by turning from grass to higher-yielding legume hays and pastures, and by increasing the use of fertilizer. Likewise an influence in the direction of a larger production of livestock will be the feeding of better balanced rations resulting from continuation of larger than prewar acreages of crops yielding protein meals as a byproduct. On the other hand, renewed soil conservation practices may mean some reduction in grain for hogs, but in-

creased forage supplies for cattle and sheep—with little or no reduction in total feed units. Another offsetting factor is the uncertainty of prolonged continuation of better-than-average growing weather for ranges, farm pastures, and feed crops.

For the United States as a whole, a postwar acreage of corn about the same as in 1940 (88-89 million planted acres) would permit (1) some restoration and maintenance of the productivity of the soil in the principal corn producing areas, and (2) desirable shifts in crop production in non-commercial areas. In a year or two many farmers, particularly among those in the Corn Belt and Lake States, are likely to return to a cropping system which includes more grasses or legumes and less corn and soybeans. On the other hand, further recovery from the drought setback in corn acreage in the Great Plains and Mountain States appears likely; yet the full size of the pre-drought acreage probably could not be maintained over a period of years.

VOLUME OF FEED GRAIN, AND HAY AND PASTURE PRODUCTION, UNITED STATES, 1919-44

(PRODUCTION MEASURED IN 1935-39 AVERAGE DOLLARS)



Some of the Corn Belt acreage taken out of corn and soybeans in the next year or so would be used for growing oats. This would be encouraged by the recent development of new higher-yielding varieties. The acreages of both oats and barley probably will be increased in the northern Plains and Mountain States as a part of a program of more diversified farming. Better winter varieties of oats and barley for the South will contribute to further expansion in that region. Thus, there are indications that the future acreage of oats might be as much as 2 million acres more and of barley as much as 1 million more than the 1944 acreages. If the acreages mentioned for these three feed grains are planted, and about 8 million acres of sorghums are harvested for grain, the normal expectancy for total production of feed grains in future years would exceed the prewar level because higher yields per acre can be expected with average weather. Thus the total annual tonnage of feed grains would be about 110 million tons—11 million tons more than the average production in 1937-41.

Future Yields Above War Levels

And it is entirely possible to further increase feed grain yields above the record and near-record levels of the past four to five years. Recent studies indicate that in a prosperous agriculture it would pay farmers to use approved practices that might be expected to lift yields of corn and oats a fifth above wartime yields and to maintain the yields of barley and sorghums harvested for grain at about the war level, with normal growing weather. Full attainment of the possibilities for increases in yields on the future acreages mentioned would raise the total production of feed grains to 127 million tons—almost 8 million tons above the average wartime production from 1942 through 1944, each good feed production years.

If a reasonably high national income is not maintained and farm incomes are low, the influences tending toward increased yields would be considerably weakened. But so would the possibilities of downward adjustment in the acreage of corn. It is only necessary to recall the situation that prevailed after World War I and again during the period 1930-33 to anticipate how farmers would react to low prices. They would be likely to try to offset falling prices by maintaining the acreage of corn near the wartime peak. That would mean an annual production of feed grains of about 118 million tons, assuming current "probable" yields per acre.

Each additional ton of feed grain (when matched with the usual proportion of protein supplements and forage) would provide feed for producing about 1.4 additional composite units of livestock. Because the downward trend in the number of work animals is expected to continue, it is estimated that the increase in total production of livestock other than horses and mules that could be produced in 1950 with an addition of 11 million tons of feed grains would be nearly 21 million units.

Assuming the smaller grain output, plus other concentrates, about 118 million tons of concentrates would be available for feeding all classes of livestock and poultry, and that about 35 percent (the usual proportion) of this supply would be fed to hogs, the annual production of hogs for slaughter would be about 82 million head. By the same method of estimation, continuation of the current level of production of feed grains would provide feed for about 88 million head. But if production of feed grains should reach the potential of 127 million tons, and if the same allowances are made, the calculated production of hogs for slaughter is 94 million head. These numbers can be compared with an average slaughter of 57 million head in 1935-39 and the wartime record of 97 million head in 1944.

Considering the production prospect for cattle in different parts of the country, the feed supply in the immediate years ahead is likely to be ample for supporting all cattle numbers (beef and dairy) slightly higher than has ever been reached previously. And the annual slaughter of cattle and calves from this higher level of stocking might be expected to be around 30 million head—19 million head of cattle and 11 million head of calves.

Assuming a total United States population in 1950 of 144 million and a slaughter of 30 million head of cattle and calves, the per capita production of beef and veal would be about 70 pounds, which would be about the same as the per capita consumption in the middle 1920's, and in 1941 and 1942. The per capita production of pork and lard from a slaughter of 82 million hogs would be about 91 pounds; from 94 million hogs, about 104 pounds. A per capita production of 91 pounds of pork and lard (no allowance for exports) would be about 9 pounds more than the average per capita consumption in 1920-29, whereas a production of 104 pounds per capita would be about 22 pounds more than the average per capita consumption in 1920-29, and almost 13 pounds more than the average per capita civilian consumption in 1944.

After the pent-up demand of domestic consumers and foreign relief requirements have been met, satisfactory markets and prices for meat and other agricultural commodities can best be assured by a high level of domestic employment and national income. Calculations based on an analysis of past relationships indicate that if the national income in the postwar period is as low as 105 billion dollars, farmers could expect to find a domestic slaughter outlet at commensurate prices for only about 28 million head of cattle and calves and for 75 million head of hogs. On the other hand, if the national income could be maintained at a high level (150 billion dollars), farmers could expect to find a

domestic slaughter outlet at commensurate prices for about 30 million head of cattle and calves and 87 million head of hogs.

Pork and lard were the only meat-animal products for which the United States had any appreciable export outlet before the war. From 1935 to 1939 exports of pork averaged about 2 percent and of lard about 12 percent of the annual production. The prospects for an expansion of exports for these products are not very bright, since the European hog-producing countries may be expected to get back to normal production as soon as they obtain their usual supplies of feed. Canada has greatly expanded hog production during the war and hopes to continue to find an outlet for any surplus in Great Britain. Argentina, too, will be seeking a market in other countries for a part of its small, but increasing production. A recent analysis indicates that exports of 600 million pounds of lard and 340 million pounds of pork (about the same as in 1925-29) is as high as can be reasonably expected even under full employment, unless foreign countries also have an expanding economy.

A production of 94 million hogs is about the same as the estimated number for which farmers could expect to find domestic and foreign outlets, assuming a national income as high as 150 billion dollars. On the other hand, a production of 82 million hogs is 7 million more than domestic consumers would probably take at a price commensurate with a national income of 105 billion dollars. A production of 88 million is 13 million more. Obviously, corn-hog farmers have a big stake in full employment and a high national income, and in larger export outlets than they had before the war. Otherwise, both surpluses of either corn or pork products and low prices will almost certainly confront them in the years ahead.

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Fruit Production Prospects for 1946

HOW much and what kinds of fruit the American public will eat next summer, fall, and winter will depend more than anything else on the incidence of spring frosts and weather at pollination time in the different fruit regions of the country. Although it is extremely hazardous to forecast 1946 fruit crops before this critical period has passed, an appraisal of trends in recent years will indicate the assumptions which seem most tenable for the pattern of the 1946 season.

1946 Output Tenth Above 1945

Late February conditions indicated that the total tonnage of all fruit produced in 1946 will be about 10 percent larger than in 1945. Assuming that growing conditions in 1946 will be about average in all sections of the country, aggregate deciduous fruit production should be from 5 to 10 percent larger than in 1945, but from 5 to 10 percent smaller than in 1944. Citrus fruit harvested and to be harvested in the calendar year 1946 may be at least one-tenth larger than the tonnage harvested in 1945.

The citrus increase is indicated because of a moderate increase in bearing surface in most citrus areas. Also the incidence of the October 1944 Florida hurricane resulted in smaller marketings of grapefruit and oranges from that State in the winter months a year ago in comparison with the winter just ended.

For apples in commercial areas, an about average crop, or nearly twice the small 1945 production, seems the most reasonable expectation for 1946. In the Eastern and Central States short apple crops are usually followed by average or above average crops. However, last year many orchards in this area had so little fruit some growers discontinued spraying which resulted in excessive scab and summer defoliation. This may tend to limit 1946 production in these orchards. Also,

the trend of bearing surface is downward and for the past several years the "alternate" year large crops have usually been smaller than the previous "alternate" year large crops. In the West where production is less variable from year to year about the same size crop as harvested in 1945 should be expected. For the other important deciduous fruits the assumption of average growing conditions in 1946 indicates percentage decreases in relation to 1945 about as follows: peaches 10 to 15; pears 5 to 10; grapes 5; prunes and plums combined 10 to 15; and an increase of about 25 percent for cherries.

In 1945 an unseasonably warm March in the Eastern and Central States advanced fruit buds and fruit bloomed from two to four weeks earlier than usual. The southern peach region had favorable weather at blooming time, with a record peach crop produced there. In the Northeastern and North Central regions low temperatures, rain and spring frosts killed large numbers of fruit blossoms and reduced pollination. Apples in this area, which includes the leading eastern fruit States of New York, Virginia, Pennsylvania and Michigan, were a near failure, the harvest being the smallest of record.

Two-thirds of Crop From West

In the Western States where about two-thirds of the country's deciduous fruits are usually produced, the 1945 season was unusually favorable for peaches, pears and grapes, with record or near-record productions. On the other hand, apples were only a near-average crop—and this region produced two-thirds of the national crop last year. The West usually produces from one-third to two-fifths of the Nation's apple supply.

In addition to the all important spring weather factors, 1946 fruit yields will be influenced by the care

given orchards and the availability of spray materials, fertilizer, and machinery. Although many individual growers will find one or more of these factors limiting fruit production on their farms this year, it does not seem likely that any of these elements will seriously reduce total fruit production or the output of any fruit crop. Under the stimulus of relatively high prices during the war years most commercial orchards have been well cared for, fertilizer applications have been adequate, and per acre yields high except in years when spring frosts and poor pollination weather reduced the set of fruit.

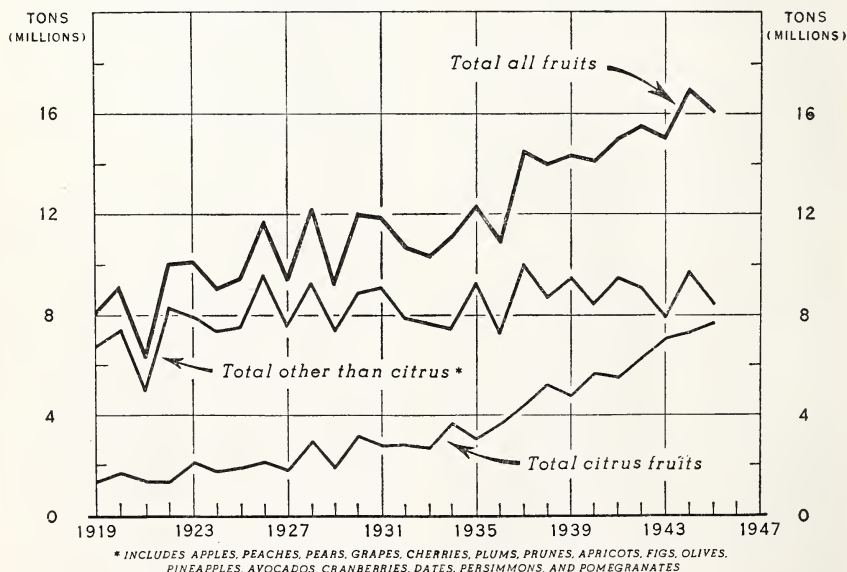
Wartime production of fruit exceeded production in any previous four-year period. Tonnage of all fruits in the four years 1942 to 1945 averaged about 16 million tons, 12 percent above the previous four years (1938-41) and 25 percent above the average production for the previous 10 years. Growers have produced and marketed these large crops under increasingly difficult conditions. Shortages have necessitated many make-shift operations and

the use of much unskilled labor, especially at harvest time. Farmers and their families have worked long hours. Pests and disease have been increasingly difficult to combat.

Production and marketing costs have increased sharply but so have fruit prices. The price index for all fruits combined for the four-year period from January 1942 to January 1946 was more than double the five-year (1935-39) average while the two-year period from January 1944 to January 1946 averaged $2\frac{1}{2}$ times the five-year average. These relatively favorable prices and wartime demands for fruits have resulted in the marketing of much low quality fruit. In the years ahead fruit growers will need to concentrate more on producing quality fruits.

While the annual production of all fruits combined now average about twice the average production at the time of World War I, significant shifts in the relative production of the different kinds of fruits and in the relative importance of the fruit regions of the country have taken place during the

FRUIT PRODUCTION: UNITED STATES, 1919-45



past quarter of a century. Deciduous fruits have increased about one-fourth and citrus about 6 times. Twenty-five years ago oranges, grapefruit, and lemons comprised about one-fifth of the total fruit production, whereas the proportion now is over two-fifths. Having been replaced by oranges as the leading fruit, apples now include only about 17 percent of all fruit tonnage in contrast to about 35 percent in the early 1920's. Orange production has increased from 13 percent of the aggregate tonnage in the early 1920's to 26 percent at present.

In the North Atlantic States—the oldest fruit area in the country—the level of production of apples and all fruit combined has declined about a fourth, with the production trend apparently still slightly downward. For the South Atlantic area, which includes Virginia, West Virginia and the important southern peach States except Arkansas, peach production has increased from a third to two-fifths and the apple crops are averaging about the same size as in the early 1920's. In the next few years, peach crops in

this area should average somewhat larger than during the war years and apples about the same size crops. Recent plantings of peach trees, especially in South Carolina, have increased bearing surface in this area. In the Central States, the level of apple production has declined about one-third in the last quarter of a century and the trend of production appears to be moderately downward.

In the West the level of deciduous fruit production is now about 50 percent greater than in the early 1920's. Grapes and peaches have increased from two-thirds to three-fourths while apples have declined about one-tenth. Peak apple production was reached in the late 1920's and early 1930's. Bearing surface in this area appears adequate to maintain the present level of production for most fruits and to increase moderately for peaches and grapes in the next few years if growers care for orchards and fertilize as well as during the war years.

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Fertilizer: Desirable Patterns of Use

DURING the war fertilizer consumption in the United States increased at an average rate of about 10 percent annually, with supplies for the year ending June 30, 1946, from 10 to 12 percent above the quantities used the previous season. About 30 percent of this season's tonnage of fertilizer was either in the hands of farmers or local dealers by the end of the calendar year 1945. Purchase by farmers well in advance of the time of use will aid in the timely distribution of the remaining 70 percent.

NOTE.—Data on past fertilizer consumption were furnished by BPIS&AE; on 1946 supplies by PMA; on suggested future use by State production adjustment committees. The data on suggested future consumption, based on profitable use by farmers assuming a prosperous agriculture, are not forecasts.—Author.

Nitrogen and potash supplies for the year ending June 30, 1946, will be slightly in excess of quantities available during the previous year. Increases in the supply of phosphoric acid will be quite substantial. The outlook for increased supplies of superphosphate during the current season continues to be favorable. Production of normal superphosphate for the six months ended December 31, 1945, was about 20 percent above the production for the corresponding period in 1944. The release of sulphuric acid to the superphosphate industry as a result of cutbacks in the munitions program was largely responsible for the high rate of production achieved during the first five months of the current season. Beginning in late February, additional

tonnages of sulphuric acid representing the remainder of ordnance stocks are to be released for civilian use including the production of superphosphate.

Although fertilizer supplies for use in the United States will be nearly adequate to meet the need for a high level of food production in 1946, there is a serious fertilizer shortage throughout the rest of the world.

Desirable Patterns of Use

The use of fertilizer on crop and pasture land results not only in increased yields but also provides an effective instrument for establishing improved patterns of land use. Better land use is largely dependent on the use of soil fertility influencing practices, of which fertilizer is one of the most important in many areas. Establishment of rotations involving successful growth of legume hay and rotation pastures generally requires application of phosphate and potash fertilizers, along with use of lime, except in areas where the natural level of soil fertility is high. These soil treatments then form one of the essential bases for the establishment of stable farming systems built largely around livestock production.

For the most part, though, extensive use of commercially produced nitrogen is primarily limited to cash crop areas

or to the production of certain cash and non-legume feed crops in the more general farming areas where the nitrogen and organic matter content of the soil is relatively low. In general farming areas, where legume crops are grown successfully in rotation, all, or most of the nitrogen added, is supplied by them and by livestock manure.

Desirable shifts in the use of fertilizer by classes of crops would support more stable and soil-conserving farming systems in all regions. In general, much heavier fertilization would be desirable for hay and pasture, as compared with the principal cash crops, as well as like increases on small grains, some of which are used as companion crops for starting new seedings of hay and rotation pasture. A large proportion of the fertilizer used on small grains benefits the hay and rotation pasture that generally follow these grains in areas where fertilizer is used. Thus an increased use of fertilizer on small grains must be counted as a further supplement to hay and rotation pasture.

Important measure of fertilizer consumption is the extent of application on land used for crops and permanent pasture. Comparisons of wartime and suggested future use are shown by regions in Table 1.

Table 1. Crop and Pasture Use of Fertilizer

Regions	Percentage of acreage fertilized			
	Land used for crops		Permanent pasture	
	Estimated 1943	Suggested for future	Estimated 1943	Suggested for future
	Percent	Percent	Percent	Percent
Northeast	43.0	51.7	7.5	13.2
Lake States	30.6	50.7	0.2	11.8
Corn Belt	19.9	50.8	1.7	41.1
Appalachian	24.3	60.9	14.5	81.7
Southeast	50.7	76.9	4.2	11.1
Miss. Delta	36.2	76.1	4.0	35.8
S. Plains	3.9	5.7	-----	-----
N. Plains	0.2	3.6	-----	-----
Mountain	3.8	11.5	-----	-----
Pacific	15.3	36.3	-----	-----
United States	19.8	39.9	15.7	136.3

¹ Does not include acreage in the Plains, Mountain, and Pacific regions as much of the land classed as permanent pasture there is extensive range land not comparable with permanent pasture on farms in the more humid regions.

-Table 2.—Suggested Future Fertilizer Use, with Comparisons

Regions	Consumption of nitrogen phosphoric acid and potash			Percentage future consumption is of 1944			
	1935-39	1944	Suggested future use	Nitrogen	Phos- phoric acid	Potash	Total
	<i>1,000 tons</i>	<i>1,000 tons</i>	<i>1,000 tons</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Northeast.....	245	390	467	115	125	113	120
Lake States.....	42	137	520	259	330	522	380
Corn Belt.....	147	337	1,191	218	346	403	353
Appalachian.....	357	568	1,208	210	195	254	213
Southeast.....	429	665	1,107	177	151	182	166
Miss. Delta.....	85	183	459	209	295	272	251
Other.....	84	222	424	155	235	112	191
United States.....	1,389	2,502	5,376	182	214	247	215

Approximately 20 percent of the land used for crops (excluding idle and fallow land) in the United States received applications of fertilizer in 1943, but full economic use under prosperity conditions would double this figure in the postwar period. A still greater relative increase would result in the greater percentage of permanent open pasture receiving fertilizer. Less than 6 percent of the permanent open pasture in humid regions was fertilized in 1943 but applications would pay on more than 30 percent. Sixty percent of the total acreage used for crops and about two-thirds of the permanent open pasture in the humid regions would receive no fertilizer even if these suggestions were fully adopted.

In terms of nitrogen, phosphoric acid and potash contained in the fertilizer, hay and pasture crops received about 521 thousand tons in 1943, but suggested future consumption is 1430 thousand tons. The comparable figure for the principal cash crops are 997 thousand and 1782 thousand tons, while those for other crops are 780 thousand and 2165 thousand tons.

Total consumption of plant nutrients in fertilizer would be increased 115 percent over that used in 1944 if suggestions of State Production Adjustment Committees are carried out. Significantly greater increases would be made in phosphoric acid and potash, than in nitrogen consumption. This reflects the desirability of more

legume crops, essential to greater stability in systems of farming. Table 2 presents data showing consumption of plant nutrients in fertilizer used in the United States during the prewar period, in 1944 and suggested quantities for the years ahead.

The Southeast has generally ranked first in consumption of commercial plant nutrients, but during the next few years consumption there would be slightly exceeded by that in the Appalachian region and in the Corn Belt, if the suggested changes should materialize. The Lake States, the Northeast and the Mississippi Delta States would follow in importance. These suggested regional changes in emphasis reflect the desirability of use of increasingly greater quantities of fertilizer on hay, pasture and other feed crops, relative to that used on cash crops.

Effects of Increased Use

Increased use of fertilizer along the lines suggested here would aid in the establishment of more stable systems of farming. This means inclusion of more feed crops, more soil improvement crops and livestock enterprises in cash crop systems in the principal cotton and tobacco areas. These areas are already heavy users of fertilizer, but suggestions call for relatively larger increases in its use on hay, pasture and small grains than on cash crops.

Such shifts in use of fertilizer would be in keeping with needed develop-

ments toward increased production and consumption of dairy products and meat animals, relative to cereal crops, and cotton. This would create an opportunity for better living both on farms and in urban centers in the predominantly cash crop areas. Fertilizer is an effective potential instrument to bring about these needed changes in the pattern of crop production and in the general level of nutrition. When used to accomplish such objectives it also becomes an effective agent to promote soil conservation and to bring about production adjustments that are likely to be more in balance with market demands.

Judicious use of fertilizer also brings increased efficiency in the production of crops to which applied and often to succeeding crops. More information is needed to aid farmers in determining the most profitable quantities of recommended grades of fertilizer to apply to different crops under different soil and climatic conditions. Small farms gain a relatively greater advantage from the use of fertilizer, as compared with large farms, because its use affords an effective means of increasing the size of business conducted on a given acreage. This advantage does not hold true in the case of practices that only increase the amount of work that can be done

by one man, such as adoption of large scale machinery. Increased mechanical efficiency of this type gives greater advantages to the larger farms.

Because of the effect of the suggested use of fertilizer in bringing about stability in farming, in furnishing a foundation on which to build better health and nutrition, in developing a balanced pattern of production more in keeping with market demands, and in promoting higher levels of general farm operating efficiency, particularly on smaller farms, there is good reason for increasing its use to a greater extent than is the case for many other farm practices.

To attain the objectives indicated, however, it is necessary that the suggested increase in the use of fertilizer be accompanied by other changes in land use and practices. This is necessary in order to avoid using fertilizer merely as an instrument to increase the total production of those crops for which there is again likely to be a world surplus. More fertilizer rightly used in conjunction with other practices in developing needed changes in farming systems, can become one effective means of avoiding a prolonged surplus crop problem in the years ahead.

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Bureau of Agricultural Economics

Release of 1945 Farm Census Data

THE area of the average American farm has grown nearly one-tenth in the past five years, from 174 acres in 1940 to slightly more than 190 acres in 1945. With about 86,000 fewer farms, there are nearly 82,000,000 more acres in farms. The preliminary totals are now 1,143,000,000 acres comprising 6,011,000 farms, compared with 1,061,000 acres and 6,097,000 farms in 1940.

Tabulated in the field, these preliminary figures were recently released and are subject to revision. By early March they were the only United States totals available, but more data are being tabulated as rapidly as possible. Despite manpower shortages and other difficulties in making a wartime enumeration of the Nation's six million farms, it is anticipated that a considerable amount of compre-

hensive census data on these farms and their people will become available by summer and fall.

Because of the method used in making the enumeration this time, it is possible to total the data by counties and States for many crop and livestock items before transferring other data to punch cards. Thus preliminary totals for these items are now available for many counties and a few States. United States totals for these items will become available just as soon as all counties and States are tabulated.

The items being tabulated by hand in this fashion deal with the acres and production of specified crops, numbers of livestock, and quantities of specified livestock products. These tabulations are being published as Advance County Release No. 1 as rapidly as possible, with reports on nearly a third of the counties having already been released. It is expected that these advance releases for all counties and States will be available by July 1946.

Meanwhile other urgently needed data are being transferred to punch cards for machine tabulation and are being summarized and released as rapidly as possible in reports designated as Advance County Release No. 2 and Advance State Release No. 2. The first county release will be available in March, with all county and State release scheduled for completion by November 1946.

The principal items to be included in this second series of advance releases are: (1) land use, value of land and buildings, value of implements and machinery including number of farms classified by value of implements and machinery; (2) farm dwellings and population, color, age, residence and years on farm for the farm operator; (3) work off farm by farm operator including number of operators classified by days worked off farm; (4) farms reporting running water, electricity, radio and telephone in farm dwellings; (5) farms reporting electric distribution

line within $\frac{1}{4}$ mile of farm dwelling; (6) distance to all-weather road; (7) number of tractors, motor trucks and automobiles; (8) farm labor and cash wages paid for hired labor; (9) value of farm products by source of income; (10) farm mortgage debt for owner-operated farms; (11) land in farms, cropland harvested, and value of land and buildings for farms classified by tenure of operator (color and tenure in the South) and by size; (12) number of farms classified by total value of farm products; and (13) total value of farm products and value of products used in farm households for farms classified by type and value of products.

To further speed the availability of preliminary national estimates of many of these items, the data of 223 sample counties are now being tabulated. Receiving top priority in Census processing operations, the information for this sample is expected to be available sometime in April 1946. Preliminary national estimates can then be projected from the sample.

The final printed reports this time will be on a somewhat different basis than in the past. A report will be published for each State (in a few cases information on neighboring States will be combined in one report) which will contain all the data for that State. These reports will contain the data in the advance releases, revised where necessary, together with additional special tabulations and historical comparisons. Each State report providing figures by counties, will be issued as rapidly as possible after the advance releases and special tabulations for the State are completed. A printed United States summary, giving figures by States, will be issued as soon as the last State report is completed.

In addition, a General Report for the United States will summarize the 1945 census information on a subject-matter basis. Separate reprints for individual subject-matter chapters will also be available for general distribu-

tion. All of the final printed publications will be available, when issued, from the Superintendent of Documents. The advance releases are available from the Bureau of the Census.

To obtain more information about the Nation's farms and their people than in previous censuses, 70 additional questions were asked of a sample of about 6 percent of the farms. Information on this sample, known as the Master Sample of Agriculture,

consists largely of more detailed data on the items contained in the advance releases, described above. Present plans call for the preparation of State and National estimates for most of the items in the Master Sample, to appear in special advance releases as well as in the General Report for the United States.

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Agricultural Division
Bureau of the Census

Sweet Corn Production and Utilization

CORN is as American as the Indian, and so is corn on the cob in the diet of the average American family. The Iroquois Indians cultivated at least two sweet varieties of corn and the first white settlers in New England quickly learned to raise and eat corn, on the cob in the summer and as corn meal or dried corn in the winter.

First Canned in Maine

Credit for packing the first canned sweet corn is given to Isaac Winslow, a Yankee sailor who began experimenting with corn canning in 1839 in an effort to add variety to the universal sailor's diet of "salt horse" and sea biscuits. After two decades of experimenting in Maine, Winslow succeeded and convinced the skeptical United States patent office that he had found a way to keep sweet corn and was granted a patent in 1862. Thus, Maine has the distinction of being the birthplace of the sweet corn canning industry. However, problems of canning sweet corn on the cob were not completely solved and, until comparatively recently, practically all of the canning has been done with corn cut from the cob. Succotash and more recently frozen corn have

been included in the stock of the modern grocery store.

Since its inception, the commercial canning of sweet corn has been a thriving industry. In 1908, less than forty years after one of the earliest canneries began operations, nearly seven million cases of canned corn were packed. In 1918, about 275,000 acres were harvested and 536,000 tons were used for commercial canning purposes from which nearly 12 million cases were obtained. In 1945, almost 475,000 acres were harvested and the production for processing totalled 1,126,800 tons. Over 29 million cases were packed in 1945. Growers received nearly 22 million dollars in 1945 for sweet corn for processing.

Acreage Moving Westward

The changes in the acreage of sweet corn harvested for processing from 1918 to 1945 in the United States are shown in the accompanying chart. There is a marked increase during this period with a tendency toward a five to seven year cycle in the acreage. Low points occurred in 1921, 1927, 1932, 1936, and 1939. Since 1940, the acreage has been held at relatively high levels, due to high prices and large wartime demands.

The practice of contracting with growers for acreages of sweet corn has been quite generally followed. Practically all of the crop is produced with an agreement between the processor and the grower. The tendency among processors has been to increase their acreages from year to year until they have built up their inventories. Then there is a period of downward adjustment. The other chart indicates the acreage pattern in recent years.

For many years, there has been a tendency to shift the sweet corn acreage westward. Maine and other New England States still make up an important area. New York, Maryland, and Pennsylvania also contribute generously each year to the United States production. But many of the large companies have concentrated their operations in the Middle West. The soil is rich and conditions are favorable for high yields per acre at low cost per unit. This natural advantage has attracted large operators to the Great Lakes and Upper Mississippi Valley areas.

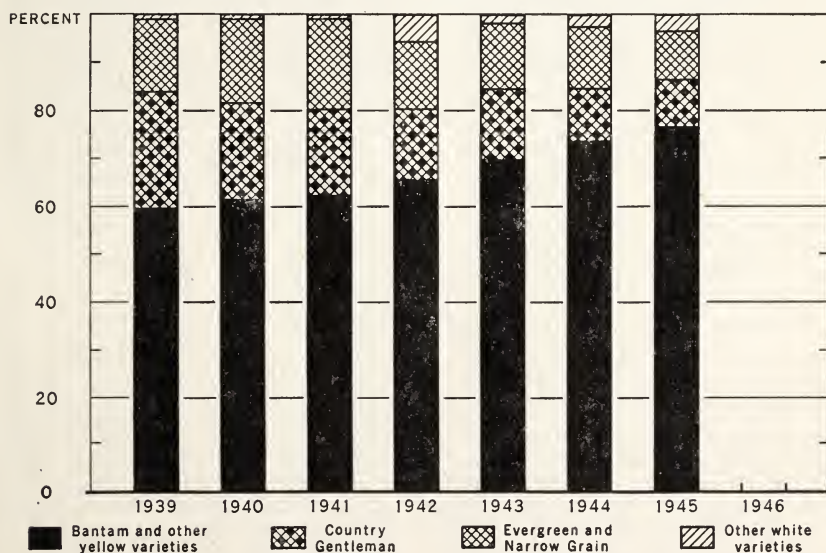
Last year, Wisconsin, Minnesota, and Illinois were at the head of the list of commercial producing States. The addition of Iowa, Indiana, and Ohio to the first three States accounted for nearly three-quarters of the acreage harvested in the United States in 1945. Another significant development in recent years has been the expansion in the Northwest, where considerable activity is taking place in the freezing of sweet corn.

Geneticists and practical sweet corn growers have interested themselves for many years in developing varieties of sweet corn that are adaptable to local growing conditions, profitable to the growers, and suitable for canning and freezing. Canners are eager for a corn that will yield a relatively large number of cases of the finished product from a ton of the fresh corn. A quality product is also sought in an effort to meet the discriminating taste of the American consumer.

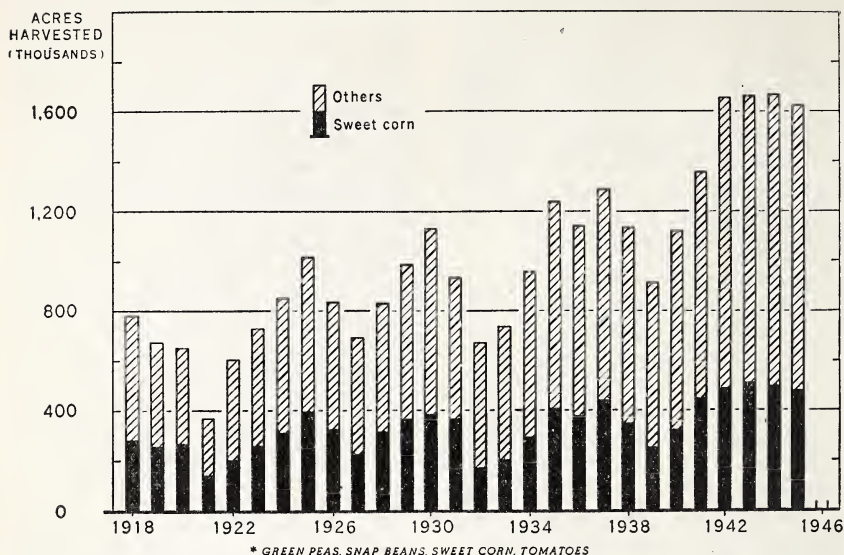
Shift to Hybrid Varieties

Present day seed houses offer a large number of different varieties, some of

SWEET CORN FOR PROCESSING: ACREAGE PLANTED, BY TYPES, IN PERCENTAGE OF TOTAL ACREAGE, UNITED STATES, 1939-45



ACREAGE OF FOUR IMPORTANT TRUCK CROPS* HARVESTED FOR PROCESSING, UNITED STATES, 1918-45



U. S. DEPARTMENT OF AGRICULTURE

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which are Crosby, Stowell Evergreen, Country Gentleman and Golden Bantam. Various hybrids are attaining prominence in commercial production. In recent years, the tendency has been to plant more of the yellow varieties, such as the Yellow Bantam and yellow hybrid seed. In 1939, about 60 percent of the acreage planted consisted of yellow Bantam and other yellow varieties. By 1945 nearly three quarters of the acreage was planted to yellow varieties. White varieties, such as Country Gentleman, Evergreen, Narrow Grain types and a few other miscellaneous varieties were used for the rest of the acreage.

In present day practice, the use of hybrid seed has very likely had a bearing on the yield obtained per acre. However, conditions through the growing season with respect to moisture, temperature and the number of frost free days have also exerted considerable influence on yields. For the country as a whole, this has ranged from 1.63 tons per acre in 1936 to a high point of 2.66 tons obtained in

1939. The record high production totalling 1,282,500 tons, was harvested in 1942.

Conforming with the shift in acreage to yellow varieties, the canned pack has been made up mostly of yellow sweet corn. Over 60 percent of the canned pack in 1939 was made from yellow varieties, and packed either as whole grain or cream style. In 1945 more than three-fourths of the pack was made from yellow type corn. The rest has been obtained from white varieties, packed mostly as cream style. The pack of corn on the cob has never exceeded a million cases.

Frozen Corn Gaining Favor

Frozen sweet corn is gaining favor from the American consumer. It is available, either cut off of the cob or frozen on the cob. Estimates place the quantity used for freezing in 1945 at not less than 56,000 tons. This compares with 48,300 tons utilized for freezing in 1944 and is about 5 percent of the total 1945 production for all processing. For 1938, the first

year for which records are available, about 15,800 tons of sweet corn were frozen and this was less than 2 percent of the tonnage produced that year for all processing.

The sweet corn acreage goal for 1946 is slightly below the 1945 planted acreage. The schedule of designated prices to growers for 1946 are the same as the average prices approved for sweet corn in 1945. If growers follow the suggestions advanced for this season's operations, 1946 will be the fifth year in succession that plantings have been in excess of 500,000 acres.

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COTTON

THE mid-February price of Middling $1\frac{5}{16}$ -inch cotton was 26.31 cents per pound at the 10 spot markets, 1.89 cents above a month earlier and 4.65 cents above a year earlier. On February 15 the price received by farmers was 23.01 cents per pound, 0.65 cents above the January 15 price and 3.02 cents above a year earlier.

The low level of prices received by farmers relative to the market price of a given quality, such as Middling $1\frac{5}{16}$ -inch, reflects the large proportion of poor quality cotton in this year's farm marketings. The large proportion of poor quality cotton in farm marketings was caused by bad weather and labor shortages during the picking season.

The 1945 crop of cotton was estimated at 9,195 thousand 500-lb. bales as of December 1 which compares with the 1944 crop of 12,230 thousand bales and with the 1934-43 average of 12,293 thousand. The decrease in production from 1944 to 1945 results from a reduction in harvestings of 2.3 million acres and a reduction in yield of 43.9 pounds per acre.

Consumption of all cotton by domestic mills has been falling off since

1942 while the margin between the market prices of cotton and the prices of 17 standard cloth construction has fluctuated around the same general level. A tight labor situation in the industry is being eased by returning war workers and veterans. Average hourly earnings in cotton manufacturing establishments increased from 57.6 cents in September, October and November 1942 to 70.3 cents in the corresponding months of 1945.

Cotton exports in the first 5 months of the 1945-46 season totaled 1,138,736 running bales as compared with 607,284 bales for the corresponding months a year earlier. A total of 1,924,377 bales (excluding small army exports) were exported in the crop year ending last July. In June 1945 exports started going to the liberated countries in significant volume but are still not as widely distributed among countries as in prewar years. Through November 1945 no cotton had been exported to Germany or Japan, both of which were large prewar importers of the low qualities of cotton now in heavy supply in this country. The United Kingdom is taking about one-fourth as much as her 1934-38 average and less than one-half of her 1944 imports, then under lend-lease.

The year 1945 saw the establishment of new production records for wheat, oats, tobacco, rice, popcorn, hops, peaches, pears, grapefruit, almonds and truck crops for fresh market.

United States farmers produced the fourth consecutive 3-billion bushel corn crop in 1945, with two States—Indiana and North Carolina—exceeding all previous production records.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 =100) ¹	Income of industrial workers (1935-39 =100) ²	1910-14=100				Index of prices received by farmers (August 1909-July 1914=100)			
			Whole-sale prices of all commodities ³	Prices paid by farmers		Farm wage rates	Livestock and products			
				Com-modities	Com-modities interest and taxes		Dairy products	Poultry and eggs	Meat animals	All live-stock
1910-14 average.....	58	50	100	100	100	100	100	101	101	101
1915-19 average.....	72	90	158	151	150	148	148	154	163	158
1920-24 average.....	75	122	160	161	173	178	159	163	123	142
1925-29 average.....	98	129	143	155	168	179	160	155	148	154
1930-34 average.....	74	78	107	122	135	115	105	94	85	93
1935-39 average.....	100	100	118	125	128	118	119	109	119	117
1940-44 average.....	192	234	139	150	148	212	162	146	171	164
1945 average.....	203	276	154	180	174	350	197	196	210	203
1945										
February.....	236	324	154	179	172	-----	200	183	209	201
March.....	235	322	154	180	173	-----	198	175	211	200
April.....	230	314	154	180	173	335	194	176	215	201
May.....	225	302	155	180	173	-----	192	179	217	202
June.....	220	301	155	180	173	340	191	189	216	203
July.....	211	287	155	180	173	362	192	197	215	205
August.....	187	260	154	180	173	-----	195	207	212	206
September.....	170	222	154	181	174	-----	197	201	207	203
October.....	163	215	155	182	175	355	199	204	202	202
November.....	168	220	156	182	175	-----	202	218	203	206
December.....	164	223	156	183	176	-----	204	222	204	207
1946										
January.....	159	-----	156	184	177	347	203	197	206	204
February.....	-----	-----	-----	185	178	-----	202	168	214	202

Year and month	Index of prices received by farmers (August 1909-July 1914=100)								All crops and live-stock	Parity ratio ⁵
	Crops									
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil bearing crops	Fruit	Truck crops	All crops		
1910-14 average.....	100	101	102	96	98	99	-----	99	100	100
1915-19 average.....	193	164	187	168	187	125	-----	168	162	106
1920-24 average.....	147	126	192	189	149	148	143	160	151	86
1925-29 average.....	140	119	172	145	129	141	140	143	149	89
1930-34 average.....	70	76	119	74	72	94	106	86	90	66
1935-39 average.....	94	95	175	83	106	83	102	97	107	84
1940-44 average.....	123	119	245	131	159	133	172	143	154	103
1945 average.....	172	161	366	171	215	220	224	201	202	116
1945										
February.....	169	164	360	161	215	211	223	197	199	116
March.....	171	166	359	163	215	211	203	196	198	114
April.....	172	162	362	163	215	221	259	204	203	117
May.....	172	161	363	165	216	227	193	198	200	116
June.....	173	162	364	169	217	237	269	210	206	119
July.....	169	161	364	171	221	237	244	207	206	119
August.....	167	158	367	172	215	214	240	202	204	118
September.....	167	157	365	175	213	217	159	191	197	113
October.....	175	160	373	180	210	219	181	196	199	114
November.....	178	161	375	182	213	217	235	203	205	117
December.....	178	162	378	184	213	230	223	206	207	118
1946										
January.....	179	164	375	180	213	225	249	207	206	116
February.....	180	166	363	185	212	233	275	213	207	116

¹ Federal Reserve Board, adjusted for seasonal variation, revised November 1943.

² Total income adjusted for seasonal variation, revised September 1945.

³ Bureau of Labor Statistics.

⁴ Revised.

⁵ Ratio of prices received by farmers to prices paid, interest, and taxes.

⁶ 1924 only.

NOTE.—The index numbers of industrial production and of industrial workers' income, shown above, are not comparable in several respects. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is intended to measure volume, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and worker's income since output can be increased or decreased to some extent without much change in the number of workers.

